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Fostering Graduate Employability in Malaysia - Bonding both Industry and Academia with a Proper Monitoring System

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Abstract

Linking between industry and academia is globally recognized as beneficial connection for both the parties. The role of university intended more towards producing right human capital as per the demands of the industry. However, this process is complete only with input of industry related to skill development and R&D activities performed by the universities. Nevertheless, this dependency is prone to raise issues for both the entities if the relationship is not checked and balanced from time to time through a proper monitoring system. This has direct ramifications on unemployment rate in general and youth/graduate unemployment rate in particular. This research identifies the current practices of university-industry relationship in Malaysian perspective and its effects on youth employability in the country. The study used qualitative methodology to collect primary data from interview sessions with veteran academicians and industrialists based on the significance of monitoring body to strategically maintain the link between industry and university. The findings from the literature review as well as interview sessions have been found generously supportive to the instalment of a monitoring system on permanent basis. This measure is seemed most effective in reducing the rising youth unemployment rate in Malaysia.

Keywords: graduate employability, monitoring system for industry-university, Academia-Industry linkages

1.0 INTRODUCTION

Today a knowledge-based economy is the benchmark of development of any prosperous nation. Whereas, such an economy is a product of the relationship between industry and academia (Raver, 2012). The direct implications of economy and industry-academia nexus fall on graduate employability because the demand of professionalism and expertise from the human resource are higher than ever before (Aithal, 2018). Therefore, it is indispensable to establish a solid link between higher education institutes and industries to foster employability as well as knowledge-based economy in a nation to remain competitive in the international business environment.

Indeed, the academia and industry are two separate worlds within themselves. Yet they are not dichotomous in terms of grooming the graduates and then building the industries relying on them. The graduates are the common and basic building blocks of both academia and industry (as practitioners). Therefore, their journey from higher learning institutes to a company should be based on procedures to ensure that industry expectations are met without compromising on academic aspirations (Bartunek & Rynes, 2014).

The industry-wide shortage of skilled and qualified human resources is witnessed commonly both in developed and developing world. On the other hand, the graduates are also suffering when their expertise are inadequate to fulfil the job criterion of the industries. This dilemma has resulted in fostering unemployment or underemployment in the world (Aithal, 2018). The economic progress of developing countries like Malaysia is directly related to the rate of unemployment in the country (Zulkifli, Omar, & Rajoo, 2016). However, the degree of unemployability among graduates varies according to the level of development of the country, yet the issue is given huge significance for sustainable employability and strengthening knowledge-based economy around the globe (Aithal, 2018).

Ramakrishnan & Yasin (2010) emphasises that "Knowledge Management" is the key to resolve the issue of both unemployment among undergraduates and deficiency of skilled human resource in the industries. Knowledge should be channelized to transfer between industry and academia to build a strong nexus to fill the gaps of unemployability among graduates. The industries should provide input to the universities to design a corresponding curriculum for the graduate students. So that, the students develop matching skills to meet the requirement of expertise needed in state-of-the-art industries. Such a knowledge cycle can develop a sustainable basis for adequate employability for graduates and sufficient skilled human resource for the industries.

This paper provides an insight to identity the rift between academia and industry in the Malaysian perspective of graduate employability. The National Graduate Employability Blueprint 2012-2017 is reviewed in the context of determining loopholes in maintaining the desired relationship between industry and academia. The element of "monitoring the link between Institutes of Higher Learning (IHL) and industry" is focused most, since it is realized as the main lacunae in making a successful working relationship between industry and academia. Moreover, a review framework of Graduate Employability Framework 2012-2017 is proposed to minimize the rift of knowledge transfer between industry and academia through efficient monitoring of the bondage between the two entities. Such a monitoring is promising to foster graduate employability in the country. Moreover, interview sessions were conducted with academicians and industrialist based on the significance of monitoring body to cross-check the link between industry and academia to retain as a working relationship. The impacts of the monitoring are also determined from the perspectives of industrialists and academicians.

■2.0 LITERATURE REVIEW

Malaysia's unemployment rate has reduced to 3.4% after three consecutive months of staying at 3.5% (MIDF Research, 2017). In the meantime, as of December 2017 it decreased even more to 3.3% and based on a year-on-year evaluation, the unemployment rate was 0.2% lower than December 2016 (Department of Statistics Malaysia, 2018). Regardless of a generally low unemployment rate, Malaysia is among regional economies with an issue of increasing graduate unemployment in double-digits estimated to have reached 10.7% in 2015, more than three times higher than the national graduate unemployment rate of 3.1% as stated by Dian and Mohd Zaidi (2016).

Youth labour force refers to those below the age of 25 and this category makes up about 17.8% of Malaysia's total labour force in 2016 (MIDF Research, 2017). Furthermore, it was also added that the graduates unemployed are more than half of the total unemployed with the graduate unemployment rate increased by 1.2 percentage points from an estimated of 9.5% to 10.7% (Dian & Mohd Zaidi, 2016). According to Department of Statistics Malaysia (2017), the total unemployed person was 504,100 in 2016. The claim that youth unemployment is high is then in accordance to the report by MIDF Research in 2017 where it was stated that the number of unemployed graduates has increased and reached to 273,400 persons in 2016.

The main reason of graduate unemployment was identified to be from the industry-academia gap of mismatching graduates' skills with industrial demands (Ramakrishnan & Yasin, 2010). Therefore, the focus of this study revolves around the youth making up almost two-third of the unemployment rate, since it is the young fresh graduates groomed by the academia not hired by industry that mostly constitutes the number. Based on Ramakrishnan & Yasin (2010) findings from questionnaires that were distributed to 350 graduated students on their views on employability, they found that 98.6 percent of the graduated students agrees that there is insufficiency of good career guidance and a shortfall of job information being the root of unemployment difficulty for the students.

A World Bank report released in 2014 found that 62% of Malaysian companies had difficulty in getting talent with the right skills, while 48% of firms found a lack of talent as a limitation on growth, in which the prime minister then called upon greater industry-academia collaboration during the Budget 2015 announcement (Chow, 2015). The gaps between industry and academia are evident in which industrial needs are not met with the graduates' skills. According to Dian & Mohd Zaidi (2016), findings from World Bank and TalentCorp survey clearly shows there is an awareness for collaboration efforts among the industry but there is in reality a very limited collaboration with the academia, for example:

> "*90% of companies agree more practical training should be provided for graduates yet 50% of the companies have no structured internship programmes. Besides that, 80% of the industry feels that the university curricular is not reflective of the current realities but then 53% of them have never even worked with career centres. Moreover, 81% of companies rated communication skills as the main shortfall of graduates but less than 10% of the companies are actually involved in developing curricular or programmes with the universities."*

It is apparent that there is a gap in the efforts of collaboration between industry and academia, as it is not taking in place extensively as needed.

The graduate unemployment is a global problem and is not a new thing. Despite of being common issue, there are numbers of factor that can dramatically exacerbate the situation if the issue is left unattended. The rising income inequality will lead to negative indication of social landscape such as increasingly dissatisfaction among the youth population, and economically slowing the growth of the nation. According to Dian Hikmah & Mohd Zaidi (2017), the first step to address graduate unemployment issue in Malaysia is by searching for root cause of the problem that must contain in permanent national agenda. The National Graduate Employability Blueprint 2012-2017, (Ministry of Higher Education, 2012), highlighted the graduate employability development academia-industry linkage framework, which focused to strengthen the employability of the graduates by producing competent graduates for national and international manpower needs and aimed for 75% of the graduates employed in their relevant fields within six months of their graduation. The Blueprint highlighted two major challenges of graduate employability which are (1) Unknown market size and needs for a high-income economy and (2) Unknown intake and exit attributes except for a few professional courses.

Moreover, eight major predicaments faced by employers also been identified such as (1) job mismatch, (2) lack of science and technical graduates, (3) lack of qualified graduates with technical skills,(4)unknown number of total jobs needed in the country, (5) poor intake attributes, (6) the notion that industry prefer ready-made instead of fundamentals, (7) stop-gap measures versus immersion at Institute Higher Education (IHL) level and (8) not obtaining right choice of course.

The importance of assessing, monitoring and evaluating of the related policy has been extensively discussed in previous literature. Braun, Kanjee, Bettinger, & Kremer (2006) had stated that in most developing countries, there is an inappropriate education policy where the assessment policies (practices) focus primarily on examinations with little or no emphasis on classroom assessment or on monitoring and evaluation of the system. For example, in the case of South Africa that beforehand was lacking the monitoring evaluation of education system, after the implementation of outcomes-based education system by introducing new curriculum, fortunately it improved the teaching and learning environment (Braun et al., 2006). In Chile, the conduct of national assessments has been a consistent policy of the government for many decades. While countries such as Uganda and Vietnam have undertaken serious efforts to implement results-based approaches to their development policies resulted in producing tangible benefits and improving the quality of living. In Malaysia, study by Dian Hikmah & Mohd Zaidi (2017) concluded that, the gaps of the issue were identified in labour market statistics, particularly on job creation, labour turnover, and hiring trends. Thus, conscientious implementation, effective monitoring and active enhancements such as establishment the Malaysian Bureau of Labour Statistics are the keys to for the progress of human capital development and labour market policies, as it will facilitate responsive, evidence-based, and timely policy-making.

Our literature review studies also consist of description from numbers of international and regional efforts in term of assessing, monitoring and evaluating of the related policy. Over the last decade, international organization such as United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Development Programme (UNDP) had increased their range and frequency for international assessments that usually focused on developing nations, with capacity development as one of the primary objectives.

UNESCO (2013) reviewed that there exists a significant gap between policy intent and implementation. The insufficient capacity for implementation is due to lack of coordination particularly strong in terms of

curriculum and TVET, where the absence of sound consultation and the simultaneous work of multiple bureaucracies may have resulted in some incoherent policy-making and, in certain cases, duplication. For example, the nation's Education Management Information System (EMIS) consisted of duplication data collection from different ministries.

■3.0 FRAMEWORK OF GRADUATE EMPLOYABILITY

3.1. "Monitoring" in the light of Graduate Employability Blueprint (GEB) 2012-2017

When it comes to ensuring that the academia is producing graduates, with right skills as per the aspirations of the industry, then the significance of coordination between industry and academia is highlighted. But in order to keep this interaction uninterrupted and alive, there has to be a check that this link does not get interrupted. One of the four Action Plans proposed in GEB 2012-2017 is "Monitoring". Whereas, monitoring is contextualized in the following way in the Graduate Employability Roadmaps 1,2 and 3 of the statue document:

- Monitoring students' satisfaction within the programme of study.
- Validating high graduate take up rate (>80%).
- Validating low graduate dropout rate.
- Validating high Graduate Employability (GE) at exit of Institutes of Higher Leaning (IHL).
- Monitoring and providing feedback on programme & knowledge collaboration & skill mismatch between IHL and Industry.
- Validate graduates' attributes at point of exit from IHL.
- Validate projected intake needs against the actual intake.
- Validate appropriateness of the delivery and assessment methods (e.g. Exit Survey, Employer Satisfaction Index, etc.).
- Staff performance (development or delivery) relating to GE metrics are measured and reported.
- IHL Graduate Employability Performance (KPI).
- IHL GE Performance reported to IHL.
- Meetings of Board of Directors.

We observe that the focus of monitoring is mainly on the internal activities and responsibilities of academia in the above-mentioned strategic actions. However, there is also a tinge of emphasis on monitoring the link between industry and academia. This monitoring implies to be either in the form of designing a collaborative course of study to be aligned with the demands of industry, or to provide feedback on skill mismatch for graduate recruitment in the industry.

3.2. Loopholes in the Monitoring Plan of Action

Despite the strategic planning about constant relationship between industry and academia in Graduate Employability Development Framework 2012-2017, (Ministry of Higher Education, 2012), the pragmatic link between industry and academia seems to be dwindling (Bank Negara Annual Report, 2017). As mentioned in the statistics above, the lack of monitoring is evident here in which, 10% companies have every participated with Institutes of Higher Learning (IHL) in developing curricula or programmes as the course of study for the graduates. Moreover, 53% firms have never worked with any career centre to augment career development aligned with the needs of job market. Half of the companies (50%) have no existing structured internship programmes to participate in skill development along with the Universities (Dian Hikmah & Mohd Zaidi, 2017).

These statistics verify that the bondage between industry and academia is very weak. Even though it is mentioned as an action plan in the GEB 2012-2017, but it is not visible on the pragmatic grounds. Therefore, the lacunae lie in the implementation. The purpose is not only to fulfil the career dreams of graduates but also to fulfil the requirements of the industry. Monitoring and evaluation are critical tools when it comes to implementation of outcome-based approach (Tam, 2013). If the link between industry and academia is well monitored for uninterrupted working relationship, then it can turn the tables around to achieve the desired graduate employment.

Currently in Malaysia, Implementation and Coordination Unit (ICU) is responsible for the monitoring of project implementation. However, there is no centralized and integrated monitoring system in the government machinery. All the ministries and agencies have their individual monitoring systems. Yet the problem lies in the

difference between theory and practice to undertake proper monitoring actions in the individual monitoring systems. Generally, the monitoring activities are done in a manual manner. Therefore, a bulk of data remains outdate and inaccurate and results in performance setbacks (Tam, 2013).

For regional efforts, according to Tam (2013), Malaysia has no legislation on centralised and integrated monitoring system; its semi-formalised evaluation policy is driven through administrative circulars from the Prime Minister's Office, the Ministry of Finance, and the Economic Planning Unit, Prime Minister's Department on certain programmes and projects especially for budgetary processes. The evaluations also serve as supportive information for any proposal for policy or programme adjustments through the Outcome-based Budgeting System (OBS). OBS system as part of the 10 Malaysia Plans 2011-2015, required annual formative evaluations to be carried out by every ministry on its programmes and activities.

The dynamics of industry in the new millennium are prone to diversify in employer's demands, working skills and job scope. Hence the significance of a monitoring is increased even more to be a permanent entity. So that it keeps track with changes taking place in industry, which may require changes in IHL curricula. This will ensure effective actions are taken timely and when necessary. It is needed to record and eliminate every intermittence of relationship between industry and academia to ensure a continuous working relationship between the two entities. The link between industry and academia can only be a working relationship when there is proper monitoring for the sustainability of the very link.

3.3. Review Framework of Graduate Employability Development 2012-2017

The linkage between Institutes of Higher Learning (IHL) and industry in order to produce collaborated graduate development programmes for fostering graduate employment, is depicted in the Graduate Employability Development Framework given in the National Graduate Employability Blueprint 2012-2017 (Ministry of Higher Education, 2012). This framework can be seen in figure 1. It displays a very clear bondage between industry and academia. This linkage is formed through the following three stages:

1. The first stage is building the content in the form of IHL graduate development programmes, in collaboration with industry and academia.
2. Based on these graduate development programmes, curriculum and co-curricular activities are proposed for the graduates.
3. When it comes to implementation, curriculum referrers to activities that bear credit hours to be taken by graduates in the IHLs. Whereas, co-curriculum activities are referred as industrial attachments to provide opportunities to the graduates for learning.

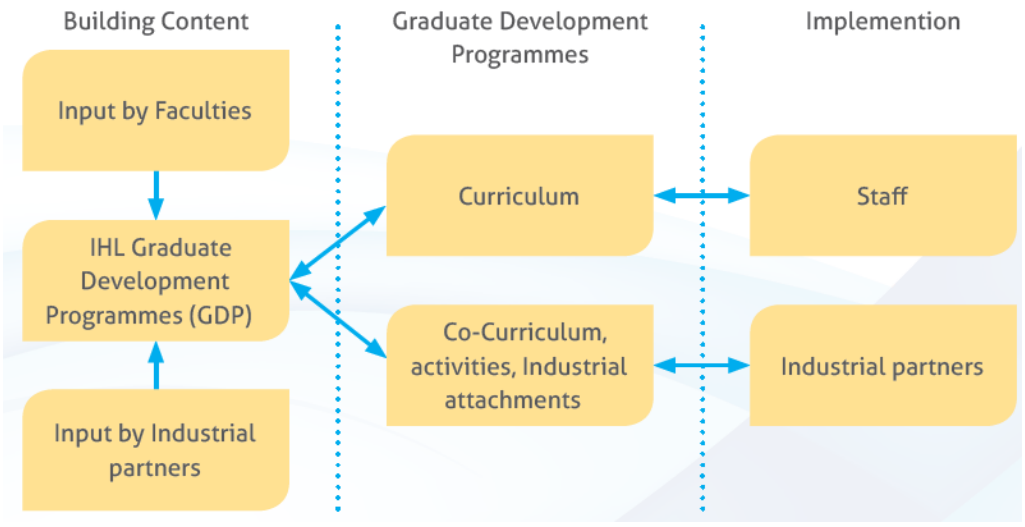

Figure 1: Graduate Employability Development Framework 2012-2017
Source :(Ministry of Higher Education, 2012)

Moreover, emphasis is given on monitoring and validation in figure 2. This validation process mainly involves staff and students to play a role of assessing and monitoring the process, based on the requirements of the given framework. In the next stage, the validation process includes industries that shall provide feedback on the results towards meeting the requirements of job market.

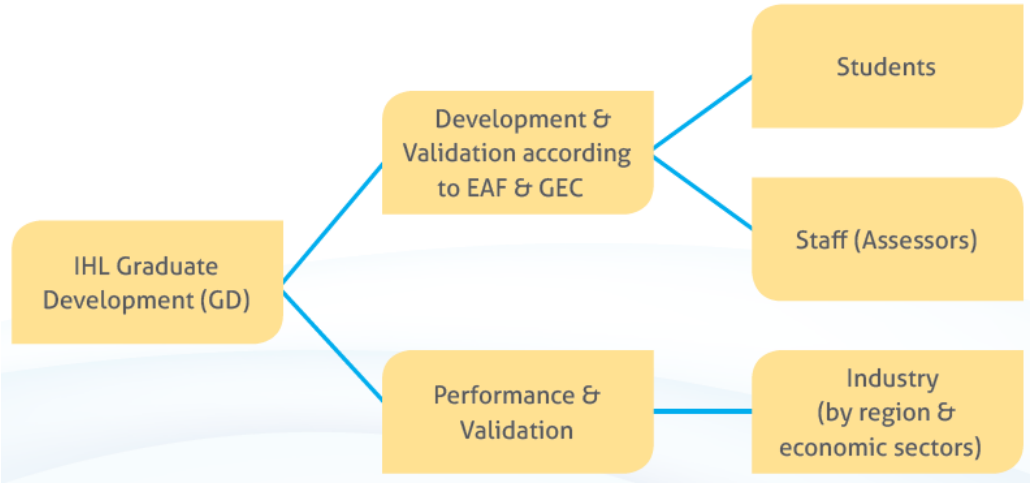

Figure 2: Validation in Graduate Employability Development Framework 2012-2017
Source :(Ministry of Higher Education, 2012)

We observe that despite of a comprehensive strategic planning to marry the industry and academia for desired graduate employability in the Malaysia, the results are not up to the mark. The framework is effective enough when it is implemented holistically. However, we see through the survey given in (Bank Negara Annual Report, 2017), that the bondage between IHLs and industry does not exist to the required extent (as discussed earlier). Therefore, missing an important part of framework of Graduate Employability Development to be effective. The review framework in this paper, proposes that if there is a proper check applied on monitoring the link between industry and academia, then this relationship can be sustained to increase the efficaciousness of the framework of Graduate Employability Development. Hence, in this way it will result in decrease graduate unemployability in the country. Following figure 3 is the depiction of the review framework:

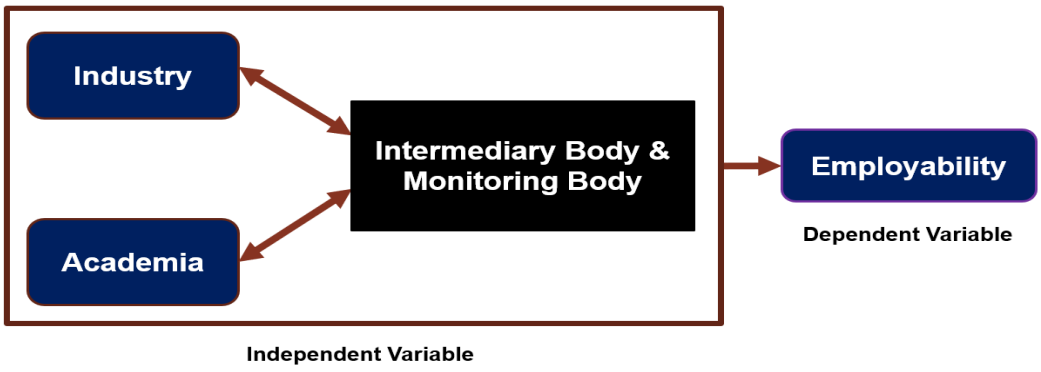

Figure 3: Review Framework of Graduate Employability Development

An introduction of Monitoring and Intermediary body to cross-check the collaboration of industry and academia can ensure collaborative outcomes especially in designing course of study or content design activities. Such a course of study (either curricular or co-curricular) included in the IHLs activities can be fruitful for the career dream of graduates as well as fulfilling the job requirement of industries. Because it will result in imparting education to graduates for skill development according to the needs of the industry. The main responsibility of the

Intermediary and Monitoring body will be to verify that the course content of study has been approved with the joint consent of industry and academia. It will also serve to evaluate industrial participation in creating internship programmes and training programmes for graduates to develop required skills in the graduates as per the demands of the industry. This body will also serve as a medium of communication between industry and IHLs in terms of coding and decoding the exchangeable content of consideration in an understandable format for both the organizations. In short, introducing a monitoring and intermediary body to ensure a working relationship between industry and academia can eliminate the lacunae in the implementation of Graduate Employability Framework. Consequently, the desired results of increased graduate employability will be produced as intended by the National Graduate Employability Blueprint 2012-2017.

■4.0 RESEARCH METHODOLOGY

In order to cover the different perspectives of graduate employability in Malaysia, boosted by a workable relationship between academia and industries, the research methodology is based on following two different sources:

- Literature Study
- Interview

The literature study provides the secondary data gathered from the study of already published work on the subject of increment in graduate employment due to academia-industry bondage. It covered topics such as fostering graduate employment, gaps in the relationship between industry and academia, review of Graduate Employability Framework 2012-2017 Malaysia, monitoring the link between university and industries and impacts of uninterrupted relationship between the two entities on youth employment as an outcome of monitoring system. These topics are correlated and serve the purpose of this study.

On the other hand, the interviews provide primary data gathered by conducting interviews with four academicians from University Technology Malaysia - Kuala Lumpur (UTM-KL) and three industrialists from Aeste Works Sdn Bhd, Avon (respondent was also in HR in an IT company previously), and Seri Rampai Engineering Sdn Bhd. The data acquired from this study were qualitative data in which all the interviews were voice-recorded. The data gained was then transcribed manually and analyzed in detail. The findings of the interviews are analysed to look into the workability of industry-academia relationship as a result of well-monitoring the link to curtail any interruption in the link. Hence rendering impacts on reducing the rising youth employment in Malaysia.

Chanopas et al (2006) claimed that the data acquired from multiple sources is complementary, reduces the chances of biases, and is more balanced in the research. This argument supports the methodology of this study to collect data from two different sources.

■5.0 FINDINGS AND DISCUSSION

A fruitful session of interviews with different academicians and industrialists shed light on the loopholes of industry-academia relationship, whereas, the success stories of different collaborations and their positive impacts were also highlighted. Hence, a major inclination of interest was seen as a whole in terms of supporting a monitoring system or body, which could take the responsibility of an uninterrupted working relationship between universities and industries for the collective will of the country.

5.1. Industrialist's Perspective:

From the perspective of industry, an interview with the CEO of a private company in Cheras mentioned that the link between industry and academia is important for the skills to be developed especially in the sense that university will be the production line in manufacturing workers for certain industries or areas. He also clarified this statement by mentioning that certain universities acts as a farm to produce workers for a certain company. For example, he mentioned that Universiti Malaysia Perlis (UniMAP)'s electronics faculty work very closely with Intel that they are farm to produce Intellars by involving Intel to design their syllabus, while Universiti Teknologi Petronas (UTP) contribute in producing Petronas staff. He added these are examples where the links are very close

and useful to reduce unemployment rate. Meanwhile, an interview with a Manager of Avon, said that this link is important to save cost in terms of training. It provides a platform in which a trainee can be the next potential staff but without any commitment to hire them after training has been completed. In this aspect she says the link is a win-win situation for both industry and academia. From a different angle, another respondent from the company Seri Rampai Engineering sees the importance of the link as a medium of communication where industry gets to clarify their requirements from new graduates. In this she said that industrial demand should be communicated with the universities to reduce supply and demand gaps between them.

While the respondents acknowledged all the importance, they also find that there are still gaps, issues and challenges in the relationship between industry and academia. For example, the CEO of the private company said that the industries in which the universities are catering to might have risks of sustaining their business. He also questioned the bigger role of universities that are supposed to not only produce workers, but also trailblazers and leaders of the country. Another gap that exists between industry and academia is that most graduates hired are not exactly from their field of studies, as said by the HR of Seri Rampai Engineering. She mentioned that there is a mismatch in fulfilling the requirement of industries that then cause the high rate of graduates' unemployment. The CEO of the private company added other problems in the linkage between industry and academia includes the biasedness of industry in influencing the syllabus of universities to cater to their own agenda. As he is also an Industry Advisory Panel (IAP), he identified that this is also a concern in the link between the industry and academia. He even gave examples to which the company National Instrument (NI) would have universities cater their employment and also sales where they will sell their products to the universities by justifying that it is industry standards. Further elaborating the gaps, he said industries would find the collaboration troublesome as they are not exactly paid thus the reason of having an agenda of their own. Meanwhile, the manager of Avon said that there are gaps in the development of soft skills of the graduates in universities. It has become too exam-oriented and less practical for the industries. As this affects quality, it then affects employability rate. The HR respondent also pointed out that high rate of graduates unemployed seem to show a somewhat failure in the higher education system of Malaysia.

In minimizing the gaps of the relationship, the CEO of private company highlighted that industries should be more supportive of the universities and not be too profit-driven but more on contributing to the society. However, he emphasized that the linkage should not entirely be about the job, employability, but that graduates learn something that is useful which results in the increase of valuability and quality of graduates. The manager of Avon also stated on graduates that should see business or contributing in a business-driven organization as an opportunity of employment rather than be too selective of job scopes. Another respondent, which the HR is identified, that having a functional link between industry and academia would bridge these gaps that exist.

As for the triple helix relationship, respondents from industries also elaborated the role of government in employment. The CEO of the private company has stated that the system and regulations of employment are highly dependent on government. For instance, an engineer or a doctor has to be certified and get a license for the job. The qualifications then depend on the accreditation of university. The accreditation of universities depends on their involvement with industries. To be specific, he elaborated on his professional field of engineering where universities have to get the approval of Engineering Accreditation Council (EAC) consisting of professional engineers for their courses development. Based on the views of the HR respondent, which stressed more on demand, and supply of graduates, she agreed that a monitoring body should be established for matching the two factors. The manager of Avon specifically stated that theoretically if government put their efforts to foster the relationship between industry and academia, it would help employment rate of youth. However, she is not sure on the practicality of the matter because there are the concerns such as (1) students ability to commit to the job (2) industries ability to pay wages. She believes that a monitoring body by the government would address these issues thus promote employability of youth. She elaborated more on the role of monitoring body to provide guidelines for industries on the collaboration with universities, which also includes the payment matter for fresh graduates. The government monitoring body would help industries by underlining a clear Standard Operating Procedure (SOP) in the links with academicians.

The impacts of the functioning monitoring body governing industry and academia is expected to fill in the gaps of graduate unemployment, based on theory-wise assumption. Nevertheless, the manager in Avon said that the monitoring has to have transparency with the programmes to ensure the functioning link of the academia and industry. She gave example of the program Skim Latihan Satu Malaysia (SLIM) that is not transparent, and the absent of the monitoring body for the programmes make things worse. To be impactful, the industry should be carefully monitored so that they would not take advantages of students. The government should cater on issue like bullying workers in an unrelated job scope, low allowance, mismatch trainings and poor workstation. In contrast, CEO of private company commented that to be impactful, government monitoring body should ensure that the

academicians should be in mixed percentage of pure academic lecturer with lecturer that is formerly from industries. Government monitoring body should play its role to choose lecturer talents from diverse quality and background in academia, industry or even government side. He argued that the lecturer should not be selected entirely from academia background, as many of the lecturers in Malaysia pursed their studies to PhD and not having industry background at all. The government should attract industrial lecturer because they can give industrial perspective quickly without the need for Industry Advisory Panel to meet twice a year, invite speakers and give inspirational talk for twice in semester, but end up being not really useful. However, the government should also address the challenges of that many experts and lot of experienced industry player actually do not have time to pursue PhD.

5.2. Academician's Perspectives

A veteran associate professor in UTM, who is an industrialist-cum-academician, described the importance of industry-academia relationship in term of two faces of the same coin. According to him, a coin retains its value only if both sides have their symbols. In case of absence of one face of coin, it does not serve any purpose and loses its. He emphasized that the two entities should work together. During his tenure as an industrialist, he became a founding member of a telecommunication corporate university. It implies mixing of industry and academia together as highest platform for training and development of human resource as per the inspirations of the industry. Precisely, to him it was directly materialization of how they are able to make one coin with two faces for state-of-the-art value creation.

The ex-vice chancellor of a University emphasized that industry can be strengthened with R&D and Innovation as a contribution of university. However, on pragmatic grounds, the academicians have no first-hand experience of working as industrialists. They go from undergraduate to postgraduate straight to become a lecturer. Therefore, the gaps are natural to occur. Hence, to bridge these gaps the link between industry and universities is indispensable. In this collaboration, each entity will get the opportunity to explain what their needs are. He described that, for a job-scope oriented education, the university has to understand the production functions of the industry. On the other hand, the graduate students also need to work in industry since the industries do not accept raw graduates. Hence the need arises for a program through which the academics and industry come in common terms to understand each other. He proposed a government body can be best liaison between the two entities. The Research Management Centre (RMC) was started in his tenure when he was the vice chancellor. He was a pioneer in conducting industry-oriented research in his University. The RMC categories research grants. These categorizations encourage the university staff to take initiative to conduct research for industry. Such an industrial research provides relatively higher Key Performance Indicator (KPI) to the university lecturers as compared to the university research or government research. It is a one way to strengthening the industry-academia relationship through R&D.

According a senior lecturer in Malaysian-Japan Institute of Technology (MJIT), the gaps between industry and academia are there to stay because of confidentiality of the organizations. Moreover, the industry is mostly concerned about the project timeline, whereas, university is focused on the novelty of the research and originality of the research. The transfer of knowledge is usually limited. However, these gaps are required to be bridged in the perspective of R&D activities need to be conducted in universities. Therefore, the transfer of industrial input to the universities, for the R&D is the earnest thing which is needed to strengthen the relationship between industry and academia. With the importance of R&D activities, the industry will realize the importance of working together with the university. Therefore, according to her, the awareness of working together should be more in the industry because university is already more than willing to work with the industry. The lack of collaboration can be justified with weak R&D department in Malaysia, since the companies have their headquarters in foreign countries and are only taking instructions from them, rather than making decisions on collaboration themselves.

The field of studies in the University are believed to be very vast according to the ex- vice chancellor. Whereas, the job scope in industry is also very broad on the other side. Therefore, he stated that, it is very hard for the graduate student to be specific in the two generic environments. If the university in an industry-oriented direction does not guide him in the specific direction, he will end up reaching nowhere. In this way the job can hardly be mastered without backing with proper education. Therefore, the industry will continue to fall short of skilled human resource.

In the matter of minimizing the gaps between the industry and academia, the veteran associate professor has expressed that there are clear concerns that the university is trying their best to address the gaps by sending lecturers to industry for relevant industrial-based experiences. Meanwhile, the ex-vice chancellor of a university

expressed his thoughts that university should not be seen as the place where learning stops but where learning begins. He stressed that the role of university is to equip students with the art of learning. The respondents gave many examples of successful collaborations of industry and academia as ways through which initiatives have been taken to minimize the gap between universities and academia. Following is an account of these collaborations given by the respective respondents:

- Engineering Accreditation Council (EAC) has made it compulsory for the university that Industrial Advisory Panel (IAP) must review the programmes of MJIT departments' faculty of Engineering. Therefore, in every three years the IAP is invited in the university consisting of at least 5 industries. The curriculum, final exam, courses and the IAP scrutinizes syllabus of the faculty. The outcome is comments and suggestions helpful in relating the academic work more with industry.
- The final year projects of master's student are displayed in an exhibition every year and industrialists are invited to evaluate their projects. This provided further insight for the academia to incline their courses more towards the demands of the industry.
- The Research Management Centre (RMC) of the university categories the research grants to be given to the university staff to conduct research on. These categories encourage the staff to take initiative to get the industry projects for their research objectives. On the other hand, marks are allocated to them as a token of increasing their Key Performance Indicator (KPI) in yearly appraisal forms. Normally these marks are higher than that of university grants or government grants. Though these research projects are quite challenging for the lecturers to conduct they receive higher marks to increase their KPI. Another form of consultation between the industry and the academia is that the lecturers give lessons related to topic of industry to their students. Therefore, creating more awareness in the graduates about the industry related knowledge.
- Since the industry-related software are too expensive for the university to afford and install in the university for the purpose of giving an exposure to the students. In that case, Malaysian Institute of Microelectronic Systems (MIMOS) becomes the coordinator to provide this software to the universities. This privilege was given on the basis of some required evaluation to see which university needs that software. For example, in UTM a server has been provided which contains the software. The students are allowed to use it as an exposure to industry software.
- The faculty of engineering in MJIT department organizes are Career Fair annually. At least 30 industries are invited to express the industry criteria of job scopes for the graduates. It is a lesson learnt for the students and academicians to evaluate the deficiencies in their knowledge required by the industries.
- Another way how the industry is involved is in training the student is by including an extra course for the undergraduate student called "how to get yourself employed". This is a compulsory course for undergraduate students in UTM. There is no credit given to this course, but it is compulsory. During this training, there is one session called "mock interview". For this session, some industry panel is invited to conduct the mock interview to train the student well. Therefore, in that case, it is not the lecturer who acts like an interviewer, rather the industry people are directly involved in the training process.

Irrespective of all these collaboration between university and academia, they can manage to cover less than 10% collaboration between the two main stakeholders (Dian Hikmah & Mohd Zaidi, 2017). Therefore, relationship between industry and academia is not strong up to a satisfactory level and there is a long way to strengthen this linkage. The absence of an organized monitoring body from the government has been determined to be the main reason for strategically patronizes these existing collaborations. Therefore, a permanent intervention from government in the form of monitoring and intermediary body can play an efficacious role in paving the way for uninterrupted bondage between industry and academia. This will not only improve the workability of the relationship but can also stabilize it in the long run.

A lecturer of UTM from Advanced Informatics System (AIS) faculty has conveyed that the link of industry and academia is not working because of multiple factors such as (1) different values or aims of industry compared to academicians (industry is highly profit-driven) and (2) lack of capacity for academicians to work like industries. However, while she claims that the collaboration is immense, she questioned the measurements to define the successfulness of the relationship. This then highlights the necessity to have a monitoring body to evaluate. Even the associate professor from IBS stated that they do involve the industry in developing curriculum but there are no follow-ups on percentages of graduates that are hired thus highlighting that there is a lack of measurements. He emphasized more on this matter by quoting a Harvard university professor in strategy, "what you measure, what you can". He explains by saying graduates' measurement can be one of the ways to analyse

how close the relationship between industry and academia is. Still, if the graduate employment is the measurement then this shows the workability of the relationship requires an improvement. He also mentioned that it is not only students that are the 'customers' of universities but also industries since the efforts of collaboration will not be seen fruitful if graduates are produced by universities but there is no absorption by the industry. In providing insights on the relationship between industry and academia, the senior lecturer has mentioned the government body, MOSTI providing some grants for universities that requires industry partners. While all the links mentioned showed there is a close relationship between industry and academia, the graduate's unemployment is still at an alarming rate which makes it questionable on the cooperation of these two entities. As expressed by respondents, there is no measurement or evaluation to define the success of the link, therefore solidifying the argument that a monitoring body is required to evaluate, which will aim to reduce youth unemployment by bridging the gaps between industries and academia.

A lecturer from MJIT commented that to make the link more impactful, the job scope of employee need to be matching to relate with the syllabus of universities. He said that normally the higher-level position, in this case engineering sector like circuit design, is much related to syllabus. However, the technician level work, especially like testing and troubleshooting, do not really fits the scope of syllabus, but been practised in many companies. This is highlighting the fact that related application and practical aspect of syllabus based on job scope need to be monitored to match the current industrial need. He also stressed out that many companies have to move forward and voluntary collaborate to design syllabus for impactful link industry and academia. Another different view from lecturer AIS, stated that she will not support to provide the framework for establishing monitoring bodies because as government had "done enough" initiatives like establishment of MITI, MIDA, SME Corp, MAGIC and all the trainings. This is by her argument that as Malaysian had adopted different policy, which is open market policy; the youth should go and work at international level. However, it seems that her argument will promote brain drain and loss of talents to other countries. She also mentioned on the fact that Malaysia will enter Industrial Revolution 4.0 (IR4) sooner or later, and the industry will adopt the use of automation and robots, thus industry will not provide any jobs to the youth in the future. As this will impact the future jobs, supposedly the monitoring body will be much help in overseeing the continuity of certain jobs available, and thus will take certain measures to addressing the IR4 challenges together with academia and industry. Nevertheless, her points that the youth themselves should polish their skills, create opportunity in business, be risk-taker, built character and have the right attitude is also relevant to filling the gaps to provide quality workforce in Malaysia.

■6.0 RECOMMENDATIONS AND CONCLUSION

In developed countries, the ultimate collaboration is in place to the extent that it is not a priority for government to intervene, as there is already an established strong foundation of relationship between industries and universities. However, as for Malaysia, industries and universities linkage still have further to improve which then necessitates the role of government to get involved especially with the worrying rate of youth unemployment. A stronger relationship or linkage between the industry and academia can help to foster employment of graduates. To ensure the links are workable and being implemented, a monitoring body by the government appears fit to act as the organization that evaluates the collaboration thus providing measurements on its' successfulness of linkage. The close relationships that are already in place should be maintained and there should be a more vigorous encouragement for more industries to participate in partnership with universities. The monitoring body can also play a role in making sure that all cooperation is transparent without manipulation of any party. In addition, the monitoring body would have the authority to design an improved system of collaboration. For example, this can also be in the form of encouraging lecturers to work in industry as part-timers or vice versa. Besides a monitoring body, it is also noteworthy to mention that building good characters, skills, attitudes and personalities of students should also be highlighted for increasing employability chances. It is recommended that a further research consisting of more respondents from various industries and universities as well as perspectives from government and fresh graduates be taken for an improved outcome of study.

In conclusion, the literature review had highlighted loopholes in the recent Graduate Employability Blueprint (GEB) 2012-2017. The focus of monitoring in the blueprint is mainly on the internal activities and responsibilities of academia and neglecting monitoring the link between industry and academia. In fact, Malaysia's monitoring system has no centralized and integrated system, and it mainly focus on outcome-budget system. The significance of establishing the proper and functioning Intermediary and Monitoring body is that it can track changes taking place in industry which may require changes in IHL curricula, then effectively and timely action

plan can be implemented to ensure a continuous working relationship of academia and industry. The findings and analysis of qualitative data from interviewing academicians and industry players are summarized as below:

- In industrial perspective, the link between academia and industry is very important because the university will be the production supply of skilled workforce to industry, to save cost in training and to clarify requirements for supply and demands of graduates. The gaps between the two entities are that the university should play bigger role in producing quality workers and leaders, mismatch requirement of talents, and collaboration troublesome because many of the participants want to protect their own agenda. In minimizing the gaps, industry should be more supportive to contribute to the society, graduates need to learn useful skills and have business-driven mind-set, also the need of functional link between academia and industry. The monitoring system shall be highly dependent on government, and practically functional in term of student ability, industry salary pays, providing guidelines and clear SOP for the collaboration. The monitoring system will be impactful to graduate employability if it has transparency between two entities and appointing many adjunct lecturers from industries.

- In academia perspectives, the important of the link been described as two faces of chain to be valued that depend on each other. The gaps between the two entities are that academicians have no first-hand experience of working as industrialists, confidentiality of the organizations and job scope of industries that very broad. So, to minimize the gaps, opportunity is needed to explain what their needs like job-scope oriented education, understanding functions of industry, assisting graduate's students for industrial training, providing KPI in the link, enhance R&D collaboration, and equipped students with never ending learning art. The monitoring body shall be with cooperative value, standardize the capacity different between two entities, and include measurements or evaluation to define the success of the link. The monitoring system will be impactful to graduate employability if the syllabus matching to job scope of industries and students are well equipped with right attitude for quality workforce.

Thus, if the link between industry and academia is well monitored for uninterrupted working relationship, then it can turn the tables around to achieve the desired graduate employment.

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